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conclude* variant thereof, wherein the variant encodes one or more amino acid deletions and optionally one or more conservative amino acid substitutions, and wherein the fragment or variant has telomerase catalytic activity.

#### REMARKS

Claims 1-21, 26-30, and 33 are pending in the subject patent application. Claims 2, 3, 5, 8, 9, 11, 14, 15, 17, and 28-30 are allowed. New claims 34 and 35 have been added herein. Thus, upon entry of this amendment to the record, claims 1-21, 26-30, and 33-35 will be pending.

Claim 1 has been amended to add the degree symbol in section (h), and to add the phrase "the complement of" in section (h). Claim 1 has been further amended in section (i) to include the complement of any of (a) through (h).

Claims 1, 19, 27, 28, 29, and 30 have been amended to delete the term "telomerase protein 2" in the preamble.

Claims 5, 6, 29 and 30 have been amended to recite "An isolated nucleic acid molecule".

Claim 26 has been amended to describe the claimed variants in more detail by reciting that the variants encode one or more conservative amino acid substitutions and optionally one or more deletions. Support for "conservative amino acid variants" can be found in Applicants' specification on page 17, lines 24-29, and on page 18, lines 1-5. Support for "deletions" can be found in Applicants' specification on page 15, lines 24-27.

Claim 27 has been amended to recite nucleic acid SEQ ID NOs, to recite that the variants encode one or more conservative amino acid substitutions and optionally one or more deletions, and to recite that the "catalytic activity" is telomerase catalytic activity. Support for the conservative amino acid substitutions and deletions are found in the specification as described above for the amendment to claim 26.

New claims 34 and 35 have been added herein to claim additional embodiments of Applicants' invention. Claim 34 is similar to claim 26, except that the claimed variants comprise one or more amino acid deletions and optionally one or more conservative amino acid substitutions. Claim 35 is similar to claim 27, except that the claimed variants comprise one or more amino acid deletions and optionally one or more conservative amino acid substitutions. Support for the variants in these claims is as described above for claim 26.

No new matter is added by these amendments.

### **Claim Objections**

Claim 1 has been objected to for failure to include the degree symbol in section (h). Applicants have corrected this inadvertent omission by amendment herein, and thus respectfully request reconsideration and removal of this objection.

### **Rejection Under 35 USC, Section 112, First Paragraph**

Claims 26-27 remain rejected under 35 USC, Section 112, First Paragraph, as not enabled for catalytically active variants. The Examiner asserts that the specification does not enable the skilled artisan to practice the inventions commensurate in scope with these claims.

In response, Applicants have amended claim 27 to recite specific SEQ ID NOs and to recite that the catalytic activity is telomerase catalytic activity.

Applicants assert that the variants of claims 26 and 27 are fully enabled by the specification. On page 20, lines 27-36 it is stated that nucleic acid molecule variants may be produced using site directed mutagenesis or PCR where the primers are designed to have the desired point mutations. These techniques were well known to the skilled artisan at the time Applicants' invention was made. The variants can readily be tested for "telomerase catalytic activity" by using any of the assays set forth in Applicants' specification for telomerase activity such as the one described on page 82, line 15 *et seq.* Accordingly, Applicants' specification clearly enables the claimed variants.

However, solely in the interest of advancing the prosecution of this patent application, Applicants have amended claims 26 and 27. As amended, the claimed variants encode one or more conservative amino acid substitutions, and/or deletions as compared with either SEQ ID NO:13 or SEQ ID NO:19.

Claims 4, 6, 10, 12, 16, and 18 have been rejected under 35 USC, Section 112, First Paragraph, as directed to chromosomal DNA for which the specification does not provide enablement.

In response, Applicants respectfully point out that in their amendment filed 6 April 1999, claim 4 was amended to recite "An isolated nucleic acid molecule...". Applicants submit that as such, claim 4, and claims 10 and 16 which ultimately depend from claim 4 do not include chromosomal DNA within their scope.

Claim 6 has been amended herein to recite "An isolated nucleic acid molecule..." and as such, does not include chromosomal DNA within its scope. Claims 12 and 18, which ultimately depend from claim 6 also now incorporate this phrase and the accompanying limitations.

In view of the foregoing, Applicants respectfully request reconsideration and removal of the rejection under 35 USC, Section 112, First Paragraph.

**Rejection Under 35 USC, Section 112, Second Paragraph**

As a preliminary matter, Applicants note that in the first sentence of page 5 of the Official Action, the Examiner makes reference to the rejection of claim 26 for use of the phrase "proliferation of a cell", however this sentence is incomplete. Clarification of the sentence is respectfully requested.

Claims 1, 7, 13, 19, 27, and 33 have been rejected under 35 USC, Section 112, Second Paragraph, as failing to particularly point out and distinctly claim the subject matter regarded as the invention. According to the Examiner, the term "telomerase protein 2" does not define the claimed nucleic acid molecules in terms of structure or function.

In response, Applicants have deleted the term "telomerase protein 2" from the rejected claims. Further, claim 33 has been amended to recite that the nucleic acid molecule that is expressed is SEQ ID NO:13 or SEQ ID NO:19. As such, Applicants believe that each of the rejected claims now defines the claimed nucleic acid molecules in terms of structure and/or function only.

In view of the foregoing, Applicants respectfully request reconsideration and removal of the rejection under 35 USC, Section 112, Second Paragraph.

Applicants believe the claims are now in condition for allowance, and a notice to that effect is solicited.

Respectfully submitted,



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